IN THE CLAIMS

1. (Original) A method for communicating control plane congestion information in a signaling network, comprising:

detecting control plane congestion at a network element;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the congestion notification for routing control traffic around the network element at which the control plane congestion has been detected.

2. (Original) The method of claim 1, wherein providing the congestion notification further comprises providing the congestion notification via a routing plane within the signaling network.

3. (Original) The method of claim 2, wherein providing the congestion notification via the routing plane further comprises providing the congestion notification to neighboring network elements proximal to the network element, wherein the neighboring network elements propagate the congestion notification to subsequent neighboring network elements.

4. (Original) The method of claim 1, wherein providing the congestion notification to at least one additional network element further comprises providing the congestion notification via a signaling plane within the signaling network.

5. (Original) The method of claim 1, wherein providing the congestion notification further comprises providing the congestion notification in response to a received connection setup message generated by a source node in the network, wherein the at least one additional node includes the source node.

6. (Original) The method of claim 5, wherein providing the congestion notification further comprises providing the congestion notification via a signaling plane within the signaling network, wherein the congestion notification is provided such that the at least one additional network element includes each network element along a path traversed by the connection setup message.

7. (Original) The method of claim 1, wherein the congestion indication includes at least one congestion parameter from the set of congestion parameters that includes: a congestion type that distinguishes between node congestion and link congestion, a congestion location, and a congestion level.

8. (Original) The method of claim 1, wherein the signaling network is included in at least one of a packet-based communication network and a cell-based communication network.

9. (Original) The method of claim 8, wherein the signaling network is a source routed control network.

10. (Original) The method of claim 9, wherein the signaling network is included in an ATM network utilizing a Private Node Network Interface (PNNI) routing and signaling protocol.

11. (Original) A method for establishing a connection in a communication network, comprising:

receiving a request to establish the connection, wherein the request includes a destination;

determining a first routing path for the connection based on network parameters, wherein the network parameters include communication network topology information and congestion information corresponding to at least one previously received congestion indication; and

sending a first connection setup message along the first routing path.

12. (Original) The method of claim 11 further comprises:

receiving an indication of control plane congestion, wherein the control plane congestion exists at a congestion point along the first routing path;

determining a second routing path for the connection using the network parameters and the indication of control plane congestion; and

sending a second connection setup message along the second routing path.

13. (Original) The method of claim 12, wherein the network parameters are stored in a table, and wherein receiving the indication of control plane congestion further comprises adding congestion information included in the indication of control plane congestion to the network parameters stored in the table.

14. (Original) The method of claim 13 further comprises removing the congestion information from the table after a predetermined time period.

15. (Original) The method of claim 14, wherein the congestion information includes a level of congestion, and wherein the predetermined time period is based on the level of congestion.

16. (Original) The method of claim 12 further comprises relaying the indication of control plane congestion to at least one additional node in the communication network.

17. (Original) The method of claim 12 further comprises storing congestion information included in the indication of control plane congestion in a congestion database.

18. (Original) The method of claim 12, wherein receiving the indication of control plane congestion further comprises receiving the indication of control plane congestion via a routing plane.

19. (Original) The method of claim 12, wherein receiving the indication of control plane congestion further comprises receiving the indication of control plane congestion via a signaling plane.

20. (Original) A congestion notification processor, comprising:

a processing module;

memory operably coupled to the processing module, wherein the memory stores operating instructions that, when executed by the processing module, cause the processing module to perform functions including:

detecting control plane congestion at a network element in a signaling network;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the congestion notification for routing control traffic around the network element at which the control plane congestion has been detected.

21. (Original) The congestion notification processor of claim 20, wherein the memory stores operating instructions that, when executed, cause the processing module to provide the congestion notification via a routing plane within the signaling network.

22. (Original) The congestion notification processor of claim 21, wherein the memory stores operating instructions that, when executed, cause the processing module to provide the congestion notification via the routing plane such that the congestion notification is provided to neighboring network elements proximal to the network element.

23. (Original) The congestion notification processor of claim 20, wherein the memory stores operating instructions that, when executed, cause the processing module to provide the congestion notification via a signaling plane within the signaling network.

24. (Original) The congestion notification processor of claim 20, wherein the memory stores operating instructions that, when executed, cause the processing module to provide the congestion

notification in response to a received connection setup message generated by a source node in the network, wherein the at least one additional node includes the source node.

25. (Original) The congestion notification processor of claim 24, wherein the memory stores operating instructions that, when executed, cause the processing module to provide the congestion notification via a signaling plane within the signaling network, wherein the congestion notification is provided to each network element along a path traversed by the connection setup message.

26. (Original) The congestion notification processor of claim 20, wherein the congestion indication includes at least one congestion parameter from the set of congestion parameters that includes: a congestion type that distinguishes between node congestion and link congestion, a congestion location, and a congestion level.

27. (Original) The congestion notification processor of claim 20, wherein the signaling network is included in at least one of a packet-based communication network and a cell-based communication network.

28. (Original) The congestion notification processor of claim 27, wherein the signaling network is a source routed control network.

29. (Original) The congestion notification processor of claim 28, wherein the signaling network is included in an ATM network utilizing a Private Node Network Interface (PNNI) routing and signaling protocol.

30. (Original) The congestion notification processor of claim 22, wherein utilization of the congestion notification by the at least one additional network element further comprises at least one of: updating routing tables, generating a congestion database, propagating the congestion notification to additional elements in the network, and compiling statistics reflecting network performance.

31. (Original) The congestion notification processor of claim 22, wherein the congestion notification includes a congestion level and wherein utilization of the congestion notification further comprises reducing control traffic to the network element at which the control plane congestion has

been detected, wherein an amount of reduction in control traffic to the network element is based on the congestion level.

32. (Original) A connection processor, comprising:

a processing module;

memory operably coupled to the processing module, wherein the memory stores operating instructions that, when executed by the processing module, cause the processing module to perform functions including:

receiving a request to establish a connection in a communication network, wherein the request includes a destination;

determining a first routing path for the connection based on network parameters, wherein the network parameters include communication network topology information and congestion information corresponding to at least one previously received congestion indication; and

sending a first connection setup message along the first routing path.

33. (Original) The connection processor of claim 32, wherein the memory stores additional instructions that, when executed by the processing module, cause the processing module to perform the additional functions of:

receiving an indication of control plane congestion at a congestion point along the first routing path;

determining a second routing path for the connection using the network parameters and the indication of control plane congestion; and

sending a second connection setup message along the second routing path.

34. (Original) The connection processor of claim 33, wherein the processing module stores the network parameters in a table, and wherein memory stores operating instructions that, when executed, cause the processing module to add congestion information included in the indication of control plane congestion to the network parameters stored in the table.

35. (Original) The connection processor of claim 34, wherein the memory stores operating instructions that, when executed, cause the processing module to remove the congestion information from the table after a predetermined time period.

36. (Original) The connection processor of claim 35, wherein the congestion information includes a level of congestion, and wherein the predetermined time period is based on the level of congestion.

37. (Original) The connection processor of claim 33, wherein the memory stores operating instructions that, when executed, cause the processing module to perform an additional function of relaying the indication of control plane congestion to at least one additional node in the communication network.

38. (Original) The connection processor of claim 33, wherein the memory stores operating instructions that, when executed, cause the processing module to store congestion information included in the indication of control plane congestion in a congestion database.

39. (Original) The connection processor of claim 33, wherein the indication of control plane congestion is received by the processing module via a routing plane.

40. (Original) The connection processor of claim 33, wherein the indication of control plane congestion is received by the processing module via a signaling plane.

41. (Previously presented) A method for communicating control plane congestion information in a signaling network, comprising:

detecting control plane congestion at a network element;

generating a congestion notification corresponding to the control plane congestion, wherein the congestion notification includes a congestion level;

providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the congestion notification for reducing control traffic to the network element at which the control plane congestion has been detected such that a scaled back amount of control traffic is sent to the network element at which the control plane congestion has been detected, wherein an amount of reduction in control traffic to the network element is based on the congestion level.

42. (Original) A method for communicating control plane congestion information in a signaling network, comprising:

detecting control plane congestion at a network element;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the congestion notification for performing at least one of: updating routing tables, generating a congestion database, propagating the congestion notification to additional elements in the network, and compiling statistics reflecting network performance.

43. (Previously presented) A method for communicating control plane congestion information in a signaling network, comprising:

detecting control plane congestion at a network element;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the congestion notification for scaling back of traffic sent to the network element at which the control plane congestion has been detected.

44. (Previously presented) The method of claim 43, wherein the providing the congestion notification to the at least one additional network element further comprises:

providing the congestion notification to a source node in response to a received connection setup message generated by the source node.

45. (Previously presented) The method of claim 43, wherein the providing the congestion notification to the at least one additional network element further comprises:

providing the congestion notification to a source node and to the at least one additional network element in the signaling network in response to a received connection setup message generated by the source node, wherein the at least one additional network element utilizes the congestion notification for reducing control traffic to the network element at which the control plane congestion has been detected.

46. (Previously presented) The method of claim 45, wherein the congestion notification is provided such that the at least one additional network element comprises a network element along a path traversed by the connection setup message.

47. (Previously presented) The method of claim 43, wherein the congestion notification is provided such that the congestion notification comprises a congestion level, wherein the scaling back of traffic is based on the congestion level.

48. (Previously presented) The method of claim 43 further comprising:

maintaining the congestion information for a predetermined time period; and

removing the congestion information after the predetermined time period.

49. (Previously presented) The method of claim 43 further comprising:

prioritizing traffic such that traffic of a priority is attempted to be routed through the network element at which the control plane congestion has been detected after the congestion notification has been provided.

50. (Previously presented) The method of claim 49, wherein the prioritizing traffic further comprises:

prioritizing traffic such that traffic of a high priority is attempted to be routed through the network element at which the control plane congestion has been detected after the congestion notification has been provided.

51. (Previously presented) The method of claim 49, wherein the prioritizing traffic further comprises:

prioritizing traffic such that traffic of a lower priority is attempted to be routed through the network element at which the control plane congestion has been detected after the congestion notification has been provided.

52. (Previously presented) A congestion notification processor, comprising:

a processing module;

memory operably coupled to the processing module, wherein the memory stores operating instructions that, when executed by the processing module, cause the processing module to perform functions including:

detecting control plane congestion at a network element in a signaling network;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the congestion notification for scaling back of traffic sent to the network element at which the control plane congestion has been detected.

53. (Previously presented) The congestion notification processor of claim 52, wherein the at least one additional network element is a source node, wherein the providing the congestion notification occurs in response to a received connection setup message generated by the source node.

54. (Previously presented) The congestion notification processor of claim 52, wherein the congestion notification is provided to a source node and to the at least one additional network element in the signaling network in response to a received connection setup message generated by the source node, wherein the at least one additional network element utilizes the congestion notification for reducing control traffic to the network element at which the control plane congestion has been detected.

55. (Previously presented) The congestion notification processor of claim 54, wherein the at least one additional network element comprises a network element along a path traversed by the connection setup message.

56. (Previously presented) The congestion notification processor of claim 52, wherein the congestion notification comprises a congestion level, wherein the scaling back of traffic is based on the congestion level.

57. (Previously presented) The congestion notification processor of claim 52, wherein the operating instructions further cause the processing module to perform:

maintaining the congestion information for a predetermined time period; and

removing the congestion information after the predetermined time period.

58. (Previously presented) The congestion notification processor of claim 57, wherein the operating instructions further cause the processing module to perform the maintaining of the congestion information in a routing table.

59. (Previously presented) The congestion notification processor of claim 57, wherein the operating instructions further cause the processing module to perform the maintaining of the congestion information in a topology database.

60. (Previously presented) The congestion notification processor of claim 52, wherein the operating instructions further cause the processing module to perform:

prioritizing traffic such that traffic of a priority is attempted to be routed through the network element at which the control plane congestion has been detected after the congestion notification has been provided.

61. (Previously presented) The congestion notification processor of claim 60, wherein the traffic of a priority further comprises traffic of a high priority.

62. (Previously presented) The congestion notification processor of claim 60, wherein the traffic of a priority further comprises traffic of a lower priority.